# The Contractor Cost Data Report System
# A Status Report

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*PA&E*

# Agenda

- **What are CCDRs and why are they needed**

- **CCDR history**

- **Re-engineering objectives and strategy**

- **Changes in policy, processes, and reports**

- **Data collection efforts**

- **Automation efforts (making data available)**

- **Educating participants**

# What Are CCDRs and Why Are They Needed?

- **Materiel developers are required to prepare and submit cost reports on major systems (ACAT I, II, & III)**

- **CCDRs consist of four data reports**
  - **Cost Data Summary Report (provides actual and estimated completion costs by a work breakdown structure)**
  - **Functional Cost Hour Report (provides functional costs and estimated completion cost for a given WBS element)**
  - **Progress Curve Report (provides actual and estimate to complete recurring costs by unit or lot for selected elements)**
  - **Plant-Wide Data Report (provides business and cost information to estimate future contractor overhead rates)**

# CCDR Reporting Policy
# (Constant 1996 Dollars)

| Category | RDT&E | Production | Annual | Acquisition | Life Cycle |
|---|---|---|---|---|---|
| ACAT I (D & C)* | >$355M | >$2.135B | | | |
| ACAT 1A** | | | >$30M | >$120M | >$360M |
| ACAT II*** | >$140 to <$355M | >$645M to <$2.135B | | | |
| ACAT III | <$140M | <$645M | <$30M | <$120M | <$360M |

Note: All costs are shown in FY 1996 constant dollars

* Major Defense Acquisition Program (MDAP)

** Major Automated Information System (MAIS)

*** Major System

# Why CCDRs are Needed

- **Cost reports are used by DoD cost analysts to prepare cost estimates of major DoD systems, particularly weapon systems**

- **Plant-Wide Data Reports are used to perform overhead studies and risk assessments**

# CCDR History and Challenges

- ## CCDRs started in 1973

- ## Several studies performed from 1992 - 1994

  - ### Concluded:

    - » Commitment disappeared
    - » Structural weaknesses lowered confidence in data
    - » Cost estimators need "actuals"
    - » System can be effective
    - » Data not readily available

  - ### Recommended:

    - » Reaffirm commitment
    - » Rebuild confidence in the data
    - » Eliminate disincentives to collection and use
    - » Make data available
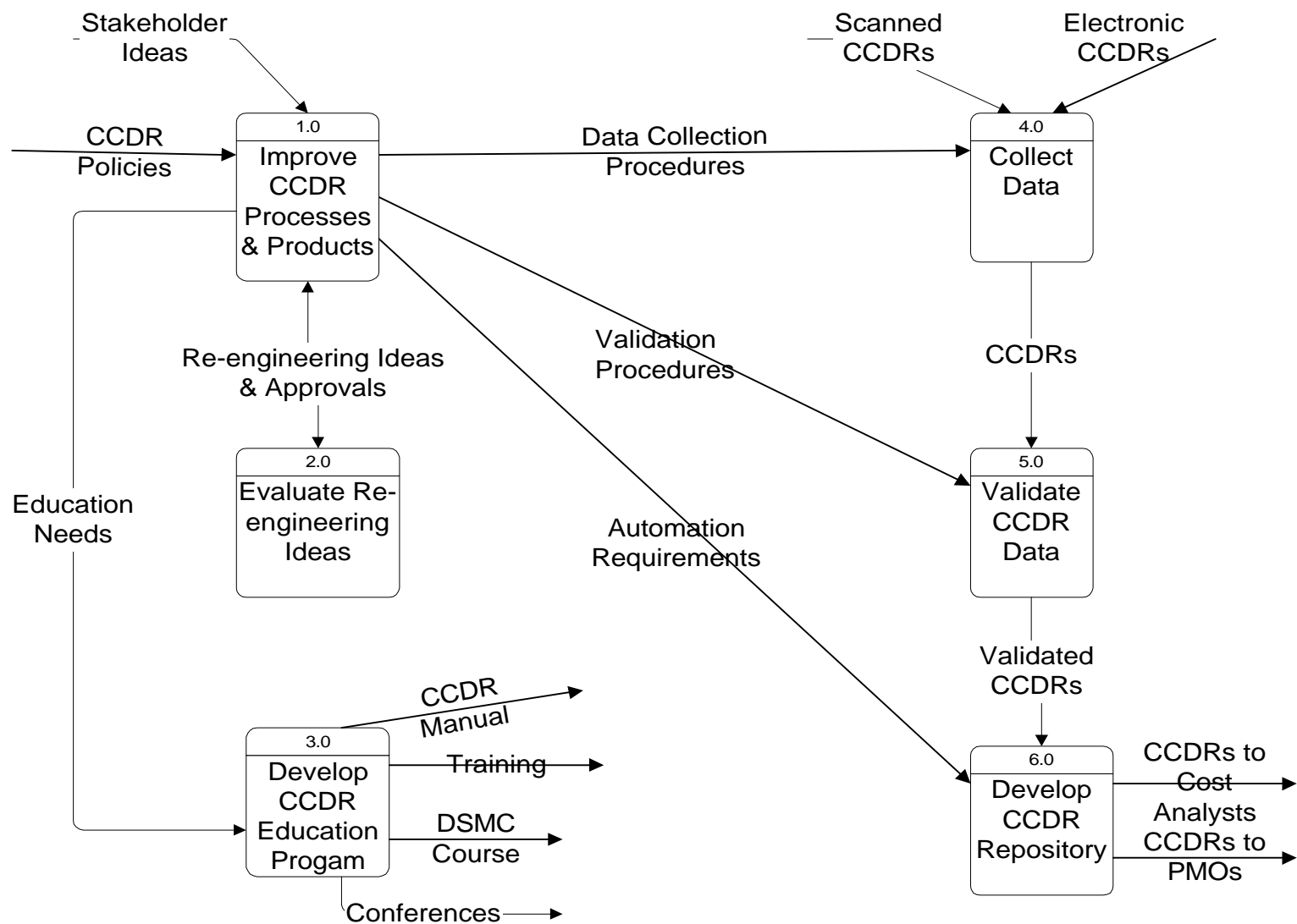    - » Educate and train users

# CCDR History and Challenges (Concluded)

- **Acquisition streamlining efforts questioned level of detail and frequency of reports (1995)**

- **Dr. Kaminski (OUSD, A&T)  provided re-engineering charter (January 1996)**

  – Reduced reporting elements and report frequency

  – Encouraged industry participation in determining reports

  – Recommended establishment of a Centralized Repository to accept cost reports electronically and provide ready data access

- **CCDR-Project Office (CCDR-PO) established and funded (1997)**

- **CCDR-PO currently implementing re-engineering strategy**

# CCDR-PO Objectives

- **Improve the quality of cost data**

- **Minimize data collection cost**

- **Make the data readily available to the cost analysis community**

# Strategy to Implement Objectives

Stakeholder
Ideas

Scanned
CCDRs

Electronic
CCDRs

CCDR
Policies

**1.0**
Improve
CCDR
Processes
& Products

Data Collection
Procedures

**4.0**
Collect
Data

Re-engineering Ideas
& Approvals

Validation
Procedures

CCDRs

**2.0**
Evaluate Re-
engineering
Ideas

**5.0**
Validate
CCDR
Data

Education
Needs

Automation
Requirements

Validated
CCDRs

CCDR
Manual

**3.0**
Develop
CCDR
Education
Progam

Training

DSMC
Course

**6.0**
Develop
CCDR
Repository

CCDRs to
Cost
Analysts
CCDRs to
PMOs

Conferences

# Improve CCDR Processes and Products

- ## Established mechanism to develop changes
  - – Set up and staffed the CCDR-Project Office (CCDR-PO)
  - – Formed a CCDR users group (CCDR Focus Group) consisting of industry and government representatives

- ## Established and agreed to a collaborative CCDR planning/approval process (CIPT)

- ## Made changes to DoD 5000.2-R

- ## Made changes to reports
  - – Supplanting the Plant-Wide Data Report with DCMC provided data
  - – Restricting applicability of Progress Curve Report
  - – Adding a report for software intensive systems

- ## Experimenting with alternate collection methods

- ## Rewrote the CCDR Pamphlet to a CCDR Manual

# Changes to CCDR Policy - DoD 5000.2-R

● **Deletes reference to Category I and II reporting**

● **Changes dollar thresholds for reporting:**

  – **Raises reporting threshold from $2.4M to $40M (Constant 96$s) for <u>all</u> contracts**

  – **Raises "floor" from $2.4 to 6M (constant 96$s) for <u>high risk</u> or <u>high technical interest</u> contracts (as determined by CIPT and PM)**

● **Clarifies reporting requirements for Commercial/Non-commercial FFP competitively awarded contracts**

  – **Required if contract was not competitively awarded or if competition does not continue to exist**

  – **(Note: Services Cost Centers still want reports on all FFP contracts, but this was not included.  Issue still open)**

# Changes to CCDR Policy - DoD 5000.2-R (Concluded)

- **Provided waiver for ships but not shipboard systems**

- **Services may reduce but not increase reporting levels and frequency  for ACAT II and III programs**

- **Allows CIPT to define reporting frequency to meet program needs**

- **Will be released as part of Change 4**

  - **Now in final coordination - expect release any day now**

  - **Will be posted on acquisition web site (and CCDR web site - http://www.ida.org/ccdr)**

# Changes to Reports

- **Surveyed industry and cost users about reports**

- **Purpose of survey:**

  - **Are data elements still useful?**

  - **Should elements be deleted?**

  - **Should elements be modified?**

  - **Should elements be added?**

  - **Collect ideas on validation procedures**

  - **Collect ideas to improve definitions**

# Survey Results

● **Plant-Wide Data Report**

– **Industry concluded:**

» **"burdensome to prepare"**

» **Data element definitions need some refinement**

» **Doubt utility (never get any questions)**

» **Eliminate report. Data available from other sources (DCAA and DCMC)**

– **Users concluded:**

» **Not used that much, but very important in doing overhead studies**

» **Agreed that data available elsewhere, but not readily accessible**

» **Indirect categories need to be updated**

» **Keep requirement, but update report**

# Survey Results (Concluded)

- **Other report formats**
  - **Industry concluded:**
    - » **Questioned validity of recurring/non-recurring because programs define this differently**
    - » **Accounting systems do not easily identify recurring and non-recurring. Therefore, burdensome to set up**
    - » **Definition of lot needs improvement (1921-2)**
  - **Users concluded:**
    - » **Cost Data Summary Report and Functional Cost- Hour Report most useful**
    - » **Dissatisfied with data on subcontractors (don't always get it)**
    - » **Progress Curve Report useful for specific programs and specific points in time**
    - » **Definitions across reports should be more consistent**

# Plant-Wide Data Report Changes

- **Cost community want to retain with changes to the report**

- **CCDR-PO analyzing ways of getting same data directly from DCMC or the contractors**
    - Conducting joint DCMC & OSD feasibility study
    - Artifacts already exist through rate negotiation process between contractors and DCMC
    - Targeted artifacts:
        » Forward Price Rate Proposal (from contractors)
        » Forward Price Rate Recommended (from DCMC)
        » Forward Price Rate Agreement (from DCMC)
        » Chart of accounts (elements of cost within indirect pools)

- **Report likely to be supplanted with DCMC provided data**

- **Raw data to be available to community (initially)**

# Changes to Other Reports

- **Analyzing feedback from user surveys**
- **Preliminary findings:**
  - Cost Data Summary Report needs little, if any, modifications
  - Functional Cost-Hour Report needs to add units and delete certain detailed functional categories for subcontractors
  - Progress Curve Report should be retained, as is, but rules for applicability need to be changed
    - » Report should be specified only during development and initial production lot for programs which will produce "high" quantities
- **Changes to reports will be determined through a cost analysis "tiger team" to meet in February, 1999**

# Additional Report for Software

- **Cost community very concerned about lack of data on software intensive systems**

- **CAIG Chair directed CCDR-PO to research**

- **Drafted data elements (embedded in systems or MAIS)**

- **Discussed with PA&E representatives responsible for economic analysis of ACAT IA (MAIS) programs**

- **Plan to agree on resource and parametric data and present to cost analysis tiger team**

- **Will present results to CAIG Chair and C$^3$I management**

- **Will likely require a change to DoD 5000.2-R**

# Draft Data Elements for Software Intensive Programs

- **System parameter data**
  - **Application type**
  - **Application domain**
  - **Development method**
  - **Process rating (SEIs, CMM)**
  - **Average years experience of personnel in application domain**
  - **Number of defects (?)**
- **Resource data by WBS**
  - **Staff months (level of effort) and dollars**
  - **Schedule data**

# Draft Data Elements for Software Intensive Programs (Concluded)

- **Proposed WBS/Cost Element Structure (CES)**
  - **System requirements and analysis**
  - **System design**
  - **Coding and unit testing**
    - » **Development tools (dollars)**
    - » **COTS (dollars)**
    - » **Modification to COTS**
    - » **Modification to existing code**
    - » **Application code**
    - » **Integration or "glue" code**
  - **System testing**
  - **Documentation**
  - **Training**
  - **Maintenance (corrective, perfective & adaptive)**

Metrics collected for these elements would be SLOC, Objects, Forms, Reports, or Function Points as determined by CIPT

# Alternative Reporting Methods

- **Proposed process**
  - Contractors provide data and algorithm in electronic format
  - Contractors periodically update algorithm to reflect accounting changes
  - DoD applies algorithm to data and prepares reports
- **Issues**
  - What is the cost effective solution?
    - » Identify all contractor and DoD costs associated with the two alternatives i.e., DoD prepared report as described above and the traditional contractor prepared CCDR report
    - » Evaluate quality of data under each of the two alternatives
    - » Assess contractor confidence in mapped results prepared by DoD

# Alternative Reporting Methods (Continued)

● **Issues (concluded)**

  – **Is there a need for the contractor to provide data in a standard format?**

  – **How will the contractor deliver the data and algorithm to DoD e.g., diskette, EDI?**

  – **What DoD office should be responsible for implementing the algorithm e.g. PM, CCDR-PO?**

  – **Will DoD perform mapping manually or with an automated tool?**

# Alternative Reporting Methods (Concluded)

- **CCDR-PO working with JSF JPO and CIPT to gain experience**
  - JPO provided 3 WBSs from 3 contractors
  - CIPT reviewed aircraft WBSs
    - » Contractor WBSs very different; one is functional, the other more product oriented
  - CIPT developed generic aircraft WBS
  - Aircraft WBS approved by PM and CIPT
  - PM to set up process to map algorithm into generic WBS
  - Demonstrate Prototype to the Focus Group

# Data Collection Efforts

- **Organized, cataloged, and scanned OSD inventory of reports**

- **Collected and scanned 50 percent of ACAT II and ACAT III CCDR data (Army and Navy reports)**

- **Developed and delivered a CCDR Planning tool (assists government program managers in planning for CCDRs)**

- **Developed and fielded a CRS Pre-Processor (reduces cost to contractors of putting cost data into established electronic format)**

- **Acknowledged receipt of reports through e-mail**

# Automation Efforts

- **Developed and delivered stand-alone retrieval systems to Navy, Army and Air Force Cost Centers as well as NAVAIR (allows users to search and retrieve historical reports until internet-based CRS is completed)**

- **Developed and implemented process to provide access to non-government personnel (through rigid administration of Non-Disclosure Agreements)**

- **Completed requirements analysis, detailed design, hardware and software acquisition and began construction of a secure internet-based submission and retrieval system (CRS).  System to be fielded in June 1999**

# CRS Architecture

**Contractor VAN**

**DoD VAN**

196

997/864

**Contractor**

Cost Data

EDI 196/997/864 FTP

EDI 196/997/864 FTP

**CRS Web Server**

**CRS EDI Server**

**Extract Data & Prepare EDI**

**Internet**

SMIME

SMIME

SMIME

**CRS Data**

**Digitally Sign & Encrypt/Decrypt Files**

SMIME EDI 196/997/864 X.509

SSL Traffic

SSL Traffic

SSL Traffic

**DoD Firewall**

**CRS Firewall / CRS Security Server**

SSL Traffic

Review, approve & comment on CCDRs

**Government Analyst**

**CRS Web Server**

**Local Cost Data**

**Program Manager**

Floppy Disk

**CCDR Plan**

**CCDR-PO**

EDI 196/997/864 (X.509/SMIME)

Floppy Disk

# Educating Participants

- **Re-wrote CCDR Pamphlet into the CCDR Manual**
  - **Coordinated it through the Focus Group and service cost centers**
  - **Approved by CAIG and PA&E management**
  - **Undergoing final DoD approvals**

- **Developed a training program**
  - **Now finalizing CCDR training materials**
  - **On-site initial training planned FY 99 (executive and detail courses)**
  - **Intend to establish a Defense Acquisition University course (subject to funding availability)**

# Educating Participants (Concluded)

- **Presented re-engineering status reports at conferences**

- **Established web site: http://www.ida.org/ccdr**

- **Developed and published article on CCDR re-engineering**